

IN THE CLAIMS:

Please amend the Claims as follows:

Claim 1. (Currently Amended) An isolated nucleic acid encoding an upstream serine threonine kinase (MEKK) ~~[[MEKK]]~~ interacting forkhead associated (FHA) ~~[[FHA]]~~ protein (MIF1) that comprises the amino acid sequence of SEQ ID NO:2, wherein the nucleic acid has a property selected from the following:

~~it can be amplified by polymerase chain reaction (PCR) using an oligonucleotide primer derived from SEQ ID NO:1 or SEQ ID NO:7;~~

~~it hybridizes under stringent conditions with a nucleic acid having a nucleotide sequence as depicted in SEQ ID NO:1;~~

~~it encodes a polypeptide having an amino acid sequence selected from the group consisting of SEQ ID NO:2, SEQ ID NO:8, splice variants thereof, and allelic variants thereof;~~

~~it encodes a polypeptide which specifically binds to an antibody generated against a peptide corresponding to amino acids 16-28 of MIF1 as depicted in SEQ ID NO:8.~~

Claim 2. (Canceled)

Claim 3. (Currently Amended) The isolated nucleic acid of claim 1 ~~[[2]]~~ comprising the ~~[[a]]~~ nucleotide sequence as depicted in SEQ ID NO:1.

Claims 4-6 (Canceled)

Claim 7. (Original) The isolated nucleic acid of claim 1, further comprising a sequence encoding a polypeptide tag, whereby the nucleic acid encodes a chimeric tagged MIF1 protein.

Claim 8. (Currently Amended) A vector comprising the isolated nucleic acid of claim 1.

Claim 9. (Currently Amended) The vector according to claim 8 wherein the isolated nucleic acid sequence coding for MIF1 is operatively associated with an expression control sequence permitting expression of MIF1 polypeptide in an expression competent host cell.

Claim 10. (Original) The vector according to claim 9 selected from the group consisting of an RNA molecule, a plasmid DNA molecule, and a viral vector.

Claim 11. (Currently Amended) ~~The vector according to claim 10 which is a plasmid DNA molecule of Claim 10,~~ further comprising a composition selected from the group consisting of a DNA condensing protein, a cationic lipid, a liposome, a polymer, and a DNA precipitating agent.

Claim 12. (Currently Amended) The viral vector according to claim 10, ~~which is a viral vector~~ selected from the group consisting of a retrovirus, an adenovirus, an adeno-associated virus, a herpes virus, and an vaccinia virus.

Claim 13. (Original) A host cell transfected with the vector of claim 8.

Claim 14. (Original) A host cell transfected with the vector of claim 9.

Claim 15. (Original) The host cell of claim 14 selected from the group consisting of a

bacterial cell, a yeast cell, and a mammalian cell.

Claim 16. (Currently Amended) A method for producing MIF1 comprising the amino acid sequence of SEQ ID NO:2, comprising:

culturing the host cell of claim 14 in culture medium under conditions permitting expression of MIF1; and  
isolating the MIF1 from the culture.

Claims 17-19 (Canceled)

Claim 20 (Currently Amended) An isolated upstream threonine kinase (MEKK) MEKK interacting forkhead associated (FHA) FHA protein (MIF1) comprising the amino acid sequence of SEQ ID NO:2, wherein the MIF1 has a property selected from the following:

~~it is encoded by the nucleic acid of claim 1;~~  
~~it has an amino acid sequence selected from the group consisting of SEQ ID NO:2, SEQ ID NO:8, splice variants thereof, and allelic variants thereof; and~~  
~~it specifically binds to an antibody generated against a peptide corresponding to amino acids 16-28 of MIF1 as depicted in SEQ ID NO:8.~~

Claims 21-24. (Canceled)

Claim 25. (Currently Amended) The isolated protein of claim 20, further comprising

~~which comprises a polypeptide tag, whereby the protein is a chimeric tagged MIF1 protein.~~

Claims 26-44 (Canceled)

Claim 45. (New) A vector comprising the isolated nucleic acid of claim 3.

Claim 46. (New) The vector according to claim 45, wherein the isolated nucleic acid is operatively associated with an expression control sequence.

*B1*  
Claim 47. (New) the vector of Claim 46, selected from the group consisting of an RNA molecule, a plasmid DNA molecule, and a viral vector.

Claim 48. (New) The plasmid DNA molecule of Claim 48, further comprising a composition selected from the group consisting of a DNA condensing protein, a cationic lipid, a liposome, a polymer, and a DNA precipitating agent.

Claim 49. (New) The viral vector according to claim 47, selected from the group consisting of a retrovirus, an adenovirus, an adeno-associated virus, a herpes virus, and a vaccinia virus.

Claim 50. (new) A host cell transfected with the vector of Claim 45.

Claim 51. (New) A host cell transfected with the vector of Claim 46.

Claim 52. (New) The host cell of Claim 51 selected from the group consisting of a bacterial cell, a yeast cell, and a mammalian cell.

*B* Claim 53. (New) A method for producing MIF1 comprising the amino acid sequence of SEQ ID NO:2, comprising:

culturing the host cell of claim 51 in culture medium under conditions permitting

expression of MIF1; and

isolating the MIF1 from the culture.

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